

What is claimed is:

1. A method for facilitating Wireless Application Protocol (WAP) transmissions comprising:
 - 5 monitoring WAP traffic on a network;
 - analyzing the WAP traffic for at least one WAP transaction;
 - analyzing the at least one WAP transaction for the support of WAP Segmentation And Reassembly (SAR); and
 - transmitting content of the at least one WAP transaction to an intended WAP client.
- 10 2. The method of claim 1, wherein the analyzing of the WAP traffic includes analyzing the at least one packet of the at least one WAP transaction.
3. The method of claim 2, wherein the at least one packet includes the first packet of the
- 15 at least one WAP transaction.
4. The method of claim 3, wherein the first packet of the at least one WAP transaction is from a WAP client.
- 20 5. The method of claim 2, wherein analyzing the at least one WAP transaction for the support of WAP SAR includes, analyzing at least one packet from a WAP gateway, if support of WAP SAR is detected.
6. The method of claim 5, additionally comprising, modifying the at least one WAP
- 25 transaction by adjusting SAR parameters of the transaction to produce a transmission for the WAP client.
7. A packet processing apparatus comprising:
 - a network interface configured for monitoring Wireless Application Protocol
 - 30 (WAP) traffic on a network; and
 - a processor programmed to:
 - analyze the WAP traffic for at least one WAP transaction;

analyze the at least one WAP transaction for the support of WAP
Segmentation And Reassembly (SAR); and
cause transmission of the content of the at least one WAP transaction to
an intended WAP client.

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8. The apparatus of claim 7, wherein the processor programmed to analyze the WAP
traffic is additionally programmed to analyze at least one packet of the at least one WAP
transaction.

10 9. The apparatus of claim 8, wherein the at least one packet includes at least the first
packet of the at least one WAP transaction.

10. The apparatus of claim 9, wherein the first packet of the at least one WAP
transaction is from a WAP client.

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11. The apparatus of claim 7, wherein the processor programmed to analyze the at least
one WAP transaction for the support of WAP Segmentation And Reassembly (SAR) is
additionally programmed to: analyze at least one packet from a WAP gateway for the
support of WAP SAR, if support of WAP SAR is detected.

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12. The apparatus of claim 11, wherein the processor programmed to analyze the at least
one WAP transaction for the support of WAP Segmentation And Reassembly (SAR) is
additionally programmed to: modify the WAP transaction by adjusting SAR parameters
of the transaction to produce a transmission for the WAP client, if support of WAP SAR
25 is detected.

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13. A programmable storage device readable by a machine, tangibly embodying a
program of instructions executable by a machine to perform method steps for facilitating
Wireless Application Protocol (WAP) transmissions, said method steps selectively
30 executed during the time when said program of instructions is executed on said machine,
comprising:

analyzing WAP traffic for at least one WAP transaction;

analyzing the at least one WAP transaction for the support of WAP Segmentation And Reassembly (SAR); and

causing transmission of the content of the at least one WAP transaction to an intended WAP client.

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14. The programmable storage device of claim 13, wherein the analyzing of the WAP traffic includes analyzing at least one packet of the at least one WAP transaction.

15. The programmable storage device of claim 14, wherein the at least one packet of the at least one WAP transaction includes the first packet of the at least one WAP transaction.

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16. The programmable storage device of claim 15, wherein the first packet of the at least one WAP transaction is from a WAP client.

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17. The programmable storage device of claim 13, wherein analyzing the at least one WAP transaction for the support of WAP Segmentation And Reassembly (SAR), includes analyzing at least one packet from a WAP gateway, if support of WAP SAR is detected.

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18. The programmable storage device of claim 13, wherein analyzing the at least one WAP transaction for the support of WAP Segmentation And Reassembly (SAR), includes, modifying the WAP transaction by adjusting SAR parameters of the transaction to produce a transmission for the WAP client, if support of WAP SAR is detected.

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19. A method for facilitating packet transport over a General Packet Radio Service (GPRS) network comprising:

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monitoring Wireless Application Protocol (WAP) traffic on the GPRS network for information about at least one WAP client;

analyzing the WAP traffic for at least one characteristic of at least one WAP transaction destined for the at least one WAP client; and

producing the optimized transmission for the at least one WAP client of the content of the at least one WAP transaction based on the at least one characteristic and the information about the at least one WAP client.

5 20. The method of claim 19, wherein the monitoring of the WAP traffic is performed on the Gb interface of the GPRS network.

21. The method of claim 19, wherein the at least one characteristic of the at least one WAP transaction includes at least one of: SAR, Retransmission flag, WAP capabilities
10 of the WAP client and the WAP gateway.

22. The method of claim 21, wherein analyzing the WAP traffic includes matching the at least one WAP transaction to the information received from the monitoring of the GPRS network.

15 23. The method of claim 22, wherein the matching includes at least a partial correspondence of the WAP transaction and the information received from the monitoring of the GPRS network.

20 24. The method of claim 19, wherein the producing the optimized transmission includes adjusting the characteristics of the at least one WAP transaction according to the information received from the monitoring of the GPRS network.

25 25. The method of claim 20, wherein the monitoring of the WAP traffic is performed by a GPRS monitor.

26. The method of claim 10, wherein the monitoring WAP traffic on the GPRS network is continuous.

30 27. The method of claim 26, wherein the analyzing the WAP traffic and the producing the optimized transmission are performed continuously in response to the continuous monitoring.

28. The method of claim 19, wherein the producing the optimized transmission includes queuing and shaping packets of the at least one WAP transaction.

5 29. The method of claim 19, wherein the packet transport includes packets flowing in an uplink direction.

30. The method of claim 19, wherein the packet transport includes packets flowing in a downlink direction.

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31. A Wireless Application Protocol (WAP) proxy engine comprising:

a first module for receiving General Packet Radio Service (GPRS) monitoring data; and

15 at least one second module configured for receiving and analyzing WAP transactions according to the received GPRS monitoring data.

32. The WAP Proxy engine of claim 31, wherein said at least one second module is additionally configured for producing an optimized transmission for at least one WAP client of the content of at least one of the WAP transactions, based on at least one
20 characteristic and information about the at least one WAP client.

33. The WAP Proxy engine of claim 32, wherein the second module configured for analyzing WAP transactions is additionally configured to analyze the at least one WAP transaction by matching the at least one WAP transaction to the GPRS monitoring data.

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34. The WAP Proxy engine of claim 33, wherein the matching includes at least a partial correspondence of the at least one WAP transaction and the GPRS monitoring data.

35. The WAP Proxy engine of claim 32, wherein the producing an optimized
30 transmission includes, adjusting the characteristics of the at least one WAP transaction according to the information received from the GPRS monitoring data.

36. The WAP Proxy engine of claim 33, wherein the analyzing the WAP transactions and the producing of an optimized transmission are performed continuously in response to the GPRS monitoring data.

5 37. The WAP Proxy engine of claim 32, wherein the producing the optimized transmission includes queuing and shaping packets of the at least one of the WAP transactions.

38. A packet processing device comprising:

10 a network interface configured for receiving General Packet Radio Service (GPRS) monitoring information and Wireless Application Protocol (WAP) traffic; and
a processor programmed to:

analyze the WAP traffic for at least one characteristic of at least one WAP transaction destined for at least one WAP client; and

15 produce an optimized transmission for the at least one WAP client of the content of the at least one WAP transaction based on the at least one characteristic of the at least one WAP transaction destined for the at least one WAP client.

39. The device of claim 38, wherein the at least one characteristic of the at least one
20 WAP transaction includes at least one of: Segmentation and Reassembly (SAR), Retransmission flag, WAP capabilities of the WAP client and the WAP gateway.

40. The device of claim 38, wherein the processor is additionally programmed to:
analyze the at least one WAP transaction by matching the at least one WAP
25 transaction to the received GPRS monitoring information.

41. The device of claim 40, wherein the matching includes at least a partial
correspondence of the at least one WAP transaction and the received GPRS monitoring
information.

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42. The device of claim 38, wherein the processor programmed to produce an optimized transmission includes adjusting the characteristics of the at least one WAP transaction according to the received GPRS monitoring information.

5 43. The device of claim 38, wherein the network interface is configured for continuously monitoring WAP traffic on the GPRS network.

44. The device of claim 43, wherein the processor is additionally programmed to:
analyze the WAP traffic and produce the optimized transmission continuously, in
10 response to the continuous monitoring by the network interface.

45. The device of claim 38, wherein the processor programmed to produce the optimized transmission includes the processor programmed for queuing and shaping packets of the at least one WAP transaction.

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46. A system for processing packets comprising:

 a Quality of Service (QoS) server;

 a monitor for coupling to a network and detecting Wireless Application Protocol (WAP) traffic; and

20 an engine coupled to the QoS server and the monitor, the engine configured for:
analyzing the WAP traffic for at least one characteristic of at least one WAP transaction destined for at least one WAP client; and, producing an optimized transmission for the at least one WAP client, based on the at least one characteristic of the at least one WAP transaction destined for the at least one WAP client, and the information about the at
25 least one WAP client.

47. The system of claim 46, wherein the QoS server includes a traffic shaper and a packet classifier.

30 48. The system of claim 46, wherein the at least one characteristic of the at least one WAP transaction includes at least one of: Segmentation and Reassembly (SAR), Retransmission flag, WAP capabilities of the WAP client and the WAP gateway.

49. The system of claim 46, wherein the engine configured for analyzing the WAP traffic for at least one characteristic of at least one WAP transaction is additionally configured to:

5 analyze the at least one WAP transaction by matching the at least one WAP transaction to the detected WAP traffic.

50. The system of claim 49, wherein the matching includes at least a partial correspondence of the at least one WAP transaction and the detected WAP traffic.

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51. The system of claim 46, wherein the engine configured for producing an optimized transmission is additionally configured for adjusting the characteristics of the at least one WAP transaction according to the detected WAP traffic.

15 52. The system of claim 38, wherein the monitor is configured for continuously monitoring WAP traffic on the network.

53. The system of claim 52, wherein the engine is additionally configured to: analyze the WAP traffic and produce the optimized transmission continuously, in response to the
20 continuous monitoring of the WAP traffic on the network by the monitor.

54. The system of claim 46, wherein the engine configured to produce the optimized transmission is additionally configured queuing and shaping packets of the at least one WAP transaction.

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